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United Nations Platform for Space-based Information for Disaster Management and Emergency Response: proposed workplan for the biennium 2016-2017

I. Introduction

1. The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) programme was established by the General Assembly in its resolution 61/110 of 14 December 2006 to provide universal access to all countries and all relevant international and regional organizations to all types of space-based information and services relevant to disaster management to support the full disaster management cycle. The programme is aimed at promoting greater understanding, acceptance and commitment by countries regarding ways of accessing and developing capacity to use all types of space-based information to support the full disaster management cycle.

2. The present report outlines the activities to be designed and implemented during the 2016-2017 biennium by UN-SPIDER with the support of its networks of partners. After describing the resources as known at the time of drafting of the present report (sect. II), it describes how through knowledge management efforts UN-SPIDER will promote the exchange and sharing of information and knowledge (sect. III), how advisory support will be provided to Member States (sect. IV) and how UN-SPIDER will continue building connections and promoting exchanges between the various communities with responsibilities or roles in disaster management (including disaster risk reduction and emergency response) as a way to strengthen their capacities (sect. V).

II. Resources for the implementation of the workplan for 2016-2017

3. The UN-SPIDER team is expected to be composed at the beginning of the 2016-2017 biennium of 11 professionals: one senior programme officer,

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three programme officers (all on a shared basis with the Programme on Space Applications), two associate programme officers, three experts on non-reimbursable loans and two support staff. The UN-SPIDER programme will also benefit from the support of three to six interns at any given time. It is important to note that the posts of the two associate programme officers and of the three experts on non-reimbursable loans are funded by two member States and that their respective current end dates fall before the end of the 2016-2017 biennium. Additional support from the Governments of those member States and from new ones, while not yet confirmed, will be important to maintain the staffing table at least at an adequate level. The team is headquartered in Vienna, with offices in Bonn, Germany, and Beijing. Knowledge management and the knowledge portal service, as well as technical advisory services to Latin America and the Caribbean, are handled from Bonn, while the offices in Beijing and Vienna lead advisory services/missions and capacity-building efforts for Africa and Asia and the Pacific.

4. Funding for the UN-SPIDER programme will continue in 2016-2017 to come from both the regular budget of the United Nations and from voluntary contributions by member States. The Office for Outer Space Affairs has funding agreements covering all or part of the biennium with the Governments of China and Germany. Regular budget funds from the Secretariat of the United Nations will be further reduced for the coming biennium, which will in turn impair the ability of the Office to execute adequate outreach and representation activities. Current voluntary contributions, largely earmarked, do not provide the flexibility required to answer all demands for support or collaboration that the programme receives. Finally, only from this reduced regular budget can UN-SPIDER implement activities in certain regions, e.g. Latin America and the Caribbean, as current voluntary contributions do not cover the requests for support from all regions.

5. The network of regional support offices, as of June 2015, will consist of 17 members, with the International Water Management Institute (based in Colombo and a CGIAR centre) having joined the network in February 2015. At the 6th annual meeting of UN-SPIDER regional support offices, held in Vienna on 5 and 6 February 2015, the network agreed to intensify its collaboration in advisory support, capacity-building and networking activities under the programme. Closer coordination, modern collaboration platforms, increased exchanges among regional support offices and joint fundraising actions were agreed to improve the impact of the network's support to UN-SPIDER. Furthermore, confirming the desire for increased collaboration, the Pakistan-based regional support office has offered to host a future network meeting at its premises, which will be the first such meeting to take place outside of Vienna headquarters.

III. Innovations for knowledge management

6. By the end of 2014, the UN-SPIDER knowledge portal had not only been given a graphical facelift but also had begun providing new services following an in-depth internal and external evaluation in 2012 of its functioning and of the requirements and expectations of its end users.[1] The portal is now accessible in

[1] Section 2 of the UN-SPIDER proposed workplan for the biennium 2014-2015, submitted to the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space at its fiftieth session, in 2013 (A/AC.105/C.1/2013/CRP.6), describes the essential conclusions of the 2012 assessment.

English, French and Spanish and offers a much more intuitive user interface and a substantial increase in technical resources and reference materials. The programme will continue the implementation of the associated development road map for the portal during the next biennium, and innovative means of collaboration are being implemented. The network of UN-SPIDER regional support offices will be required to contribute even more with regard to technical and scientific content, and also in the development of new services, some of which could ultimately benefit from decentralized management. By promoting the use of an open-source application and sharing environment, the portal will become even more relevant to end users of the disaster risk reduction and emergency response communities. With regard to content, it is worth noting that, since January 2014, 1,916 items have been added, for a total of 6,259 published items as of March 2015. The portal also receives an average of 2,250 users and 5,350 page views every week.

7. To achieve the long-term vision the team has for knowledge-sharing, dissemination of knowledge in general and the portal in particular, new collaborations and new in-kind and in-cash contributions will be necessary in 2016-2017 and beyond to ensure that these efforts are not fully dependent on periodically renewed short-term voluntary commitments.

8. UN-SPIDER will continue complementing its awareness efforts through the knowledge portal, with printed and online publications, including newsletters and electronic updates. The programme will also take advantage of social media tools such as Google+, Facebook and Twitter to share information on activities conducted by UN-SPIDER and partners, and will intensify its communication through social networks in 2016-2017, including by seeking more synergies with the communication activities of the Office for Outer Space Affairs on related themes of interest. One of the benefits of social networks is the fact that they bring more visitors and users to the knowledge portal (155 per month on average), in addition to giving the programme a more instantaneous reach to its communities and improving search engine rankings. The number of "followers" on all the networks showed a steady increase between January 2014 and March 2015: the number of Facebook followers stood at 1,800 (an increase of 54 per cent); Google+ at 2,500 (an increase of 17 per cent); and Twitter at 6,700 (an increase of 34 per cent). In the next biennium, the programme will intensify its use of social networks and explore new media to reach its end users so that its activities and those of its partners are communicated in a way that increases their impact and relevance.

9. Additionally, UN-SPIDER recognizes the need to provide the latest information on events and activities undertaken by the space and disaster management communities, as well as on the activities conducted by UN-SPIDER and partners worldwide, and will continue to provide daily updates on such news and events on the knowledge portal. For example, members of the regional support office network can now access their respective pages on the portal and submit materials themselves, thus increasing the dissemination of information on what UN-SPIDER partners are doing with regard to disaster risk reduction and emergency response.

10. Following the decision by the regional support offices at their third annual meeting in 2012 to develop specific publications on how to access and make use of satellite imagery (see A/AC.105/2012/CRP.18), step-by-step procedures and booklets were produced in 2014 (see A/AC.105/1079). More publications are in

development, in collaboration with regional support offices, including some as joint products of those offices, and will be published in 2016 and 2017. UN-SPIDER is also reaching out to partners to translate those reference materials into languages other than English.

11. Among other resources on the portal, new data sources are constantly added to the long list of available satellite data and product sources that are classified according to the needs of end users. Efforts by the Office for Outer Space Affairs to facilitate better access to open data and to make more and more products available free of charge will become another important source of data in the upcoming biennium, as new agreements are finalized with providers of imagery and services.

IV. Advisory support and coordination for disaster management (including disaster risk reduction and emergency response)

12. The demand for advisory support from UN-SPIDER is continually increasing. Although the benefits of space-based data, tools and applications are recognized and well demonstrated, the streamlining of their use in many countries is not yet up to speed to generate the impacts they can have on reducing the vulnerability of populations. Building upon the work already carried out in 2014-2015 and with renewed collaborative initiatives with other United Nations entities and with the network of regional support offices, the programme will continue to focus on the following activities during the 2016-2017 biennium:

(a) Providing support to end users in building capacity to use space-based information made available during emergency events;

(b) Ensuring that space-based information is available to support the monitoring, preparedness, early warning, emergency response and early recovery phases of disaster management, building on key and innovative agreements signed in February 2015 between the Office for Outer Space Affairs and DigitalGlobe or that are in negotiation as of March 2015 (with the Governments of China, Israel, Italy and Kazakhstan);

(c) Strengthening its partnerships with regional representations of the United Nations Office for Disaster Risk Reduction, the Economic and Social Commission for Asia and the Pacific, the Office for the Coordination of Humanitarian Affairs and United Nations country offices such as those of the United Nations Development Programme involved in disaster management and which can assist with the implementation of the recommendations of technical advisory missions;

(d) Working closely with existing global and regional mechanisms such as the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (also called the International Charter on Space and Major Disasters), Sentinel Asia and the European Earth Observation Programme (Copernicus), to promote their programmes and facilitate access by end users to their services by, inter alia:

(i) Reporting and providing information to existing mechanisms and initiatives on how they could improve and extend their support;

(ii) Aiming to ensure that providers understand the requirements and specific conditions or constraints that end users have in requesting, receiving and using support;

(iii) Assisting in the implementation of the International Charter's universal access initiative by supporting nations in becoming authorized users;

(iv) Assisting in developing the number and quality of International Charter project managers through training and coordination support;

(e) Continuing to develop new collaborations and projects with more United Nations entities and Member States to ensure coordination of actions with regard to accessing and using space-based information for disaster risk management and emergency response events;

(f) Following the knowledge portal development road map (see sect. III above) and continuing the dissemination of relevant information produced from work on disaster risk reduction and on selected emergency and humanitarian response events;

(g) Increasing the role of the UN-SPIDER regional support offices in providing support to countries that request international support.

13. Through the UN-SPIDER programme, the Office for Outer Space Affairs will continue working with Member States that request support in accessing and using space-based solutions for disaster-risk management and emergency response by:

(a) Assessing national capacity and evaluating disaster and risk reduction activities, policies and plans with regard to the use of space-based technologies;

(b) Assisting in the design of risk reduction and disaster risk management plans and policies with regard to the use of space-based technologies;

(c) Developing and customizing guidelines to include space-based technologies in disaster risk reduction and emergency response;

(d) Facilitating access by national institutions to space-based information to support disaster risk reduction and emergency response activities;

(e) Identifying training needs and facilitating the implementation of capacity-building activities;

(f) Supporting the implementation of risk reduction and emergency response activities using space-based technologies.

14. Technical advisory support can include: (a) technical advisory missions involving experts from space and disaster management agencies from other countries as well as from relevant international and regional organizations and institutions; (b) technical advice to national institutions by means of, inter alia, meetings, teleconferences and videoconferences; (c) facilitating direct cooperation between national institutions and providers of space-based information and solutions; and (d) facilitating access to satellite images during emergencies. The advisory support provided covers data access and policy, information management, national spatial data infrastructure and interinstitutional coordination.

15. Technical advisory missions are now a flagship of UN-SPIDER, with close to 30 countries having benefited from detailed assessment of their capabilities. The

output of each mission is a formal report with a summary of the findings, recommendations, follow-up actions and suggestions on guidelines and policies on disaster risk management issues, always from the perspective of the use of space-based information during all stages of the disaster management cycle. In some regions, such as South-East Asia, UN-SPIDER in 2016-2017 will have covered most countries and will be able to provide follow-up technical support promoting the benefits of a regional vision concerning transboundary hazards. This regional approach will also allow for the continual support that countries to which such missions have taken place may require for the implementation of the recommendations of those missions. By fostering open data-sharing and exchange practices and good data management, UN-SPIDER hopes to increase the impact of its services with the support of its networks of partners.

16. The programme will encourage countries that have been recipients of technical advisory missions over the past few years to revisit the recommendations of the mission experts and coordinate with UN-SPIDER for their implementation through follow-up activities. Oftentimes, these recommendations involve specific training on issues that are relevant to the countries aimed at individuals in authorities with responsibility for the use of space-based information. Examples of successful follow-up activities realized in 2014 and 2015 will be promoted with Member States to increase awareness of the need for the implementation of the recommendations of such missions.

17. In accordance with the strategic framework of the Office for Outer Space Affairs for 2016-2017 (A/69/6 (Prog. 5), the programme aims to continue providing advisory support to the 38 member States that have been supported since the beginning of UN-SPIDER (a target for the end of 2015) and increase the number of member States receiving such support to 42 during the current biennium. Another indicator of progress, starting in the next biennium, will be the number of new services provided by the knowledge portal. The programme seeks to provide a minimum of 22 services by the end of 2017.

V. Bridging communities and capacity-building

18. One of the findings of the technical advisory missions realized by UN-SPIDER over the years is that, although (a) there has been tremendous progress in the past decade in the application of Earth observation, in terms of both the quality and the relevance of products for preparedness and disaster response, and (b) the institutional framework developed in many countries to coordinate the actions of authorities to prepare and respond to disasters has been put in place following a range of good practices at the policy and organizational levels, there is still a large gap between how the communities of providers of data and products and the communities of end-users that are not specialists in Earth observation understand the expectations, needs and constraints they each face. This understanding is the motivation for most of the outreach and representation efforts of the team. However, as stated in section II above, priorities need to be set, as the financial resources currently available do not allow for a full response to current levels of demand for support or collaboration, or even for taking full advantage of the many opportunities that exist. It is foreseen that this situation will not improve in 2016-2017 unless more member States make voluntary contributions to the

programme. At the same time, the demand for a more integrated and coordinated approach will continue to be important, as more work will be required by nations and by the United Nations system in their efforts under the post-2015 development agenda for the attainment of the Sustainable Development Goals, the targets of the post-2015 disaster risk reduction framework and the goals to tackle the impacts of climate change that will be defined in 2015.

19. Since 2014, the Office for Outer Space Affairs has led the creation and the coordination of a global partnership of agencies for which the use and promotion of Earth observation is a key activity. This partnership has committed itself to making voluntary commitments, at the third World Conference on Disaster Risk Reduction, to be held in Sendai, Japan, from 14 to 18 March 2015, to support nations in reaching the goals and targets that they have agreed on in the post-2015 disaster risk reduction framework. In 2016-2017, UN-SPIDER will continue to provide the scientific and technical guidance within the Office for Outer Space Affairs to implement commitments defined in the white paper on Earth observation in support of national strategies for disaster-risk management: a synergy framework for the integration of Earth observation technologies into disaster risk reduction.

20. In this global context, UN-SPIDER will continue mobilizing resources in capacity-building, prioritizing its outreach and awareness-raising interventions and holding expert meetings and workshops.

A. Capacity-building

21. Capacity-building and the strengthening of institutional arrangements at all levels are key to increasing the ability of organizations and individuals to effectively access and make use of space-based services for disaster-risk management, preparedness, response and recovery. In 2016-2017, UN-SPIDER will continue:

(a) Working with partners, including the UN-SPIDER regional support offices, in the development of training curricula and corresponding materials;

(b) Consolidating collaboration with the Group on Earth Observations, the United Nations Institute for Training and Research and its Operational Satellite Applications Programme that were intensified in 2014 to develop joint training activities by pooling knowledge and resources;

(c) Promoting the development of short-term courses to be delivered by regional support offices from UN-SPIDER on remote sensing for disaster risk management and emergency response. Examples of similar activities in the previous biennium in which providers of data, software or services participated actively will be promoted as much as possible.

22. The report on activities carried out in 2014 in the framework of UN-SPIDER (A/AC.105/1078) outlines innovative activities developed in partnership with regional support offices, United Nations entities, academic institutions and, sometimes, the private sector. These serve as models for the 2016-2017 biennium, as the partnerships allowed access to proven and targeted expertise while reducing total costs, since most collaboration was done at no cost to the programme or the participants.

23. As indicated in section IV above on advisory services, the planning of UN-SPIDER will prioritize capacity-building activities at the regional level, not only to optimize scarce resources, but also to encourage nations to work together in developing capabilities to reduce the vulnerability of populations and to mitigate the impact of disasters.

B. Outreach activities

24. As in the previous biennium, resources permitting, outreach activities will include the following:

(a) Support to related meetings that are organized by partners and are relevant to the mandate and mission of UN-SPIDER;

(b) Participation in relevant international policymaking and technical bodies and conferences, meetings or workshops through the provision of speakers and awareness-raising materials;

(c) Support for the participation of disaster management practitioners and experts in regional technical and international training sessions, seminars and workshops organized by UN-SPIDER, the regional support offices and other partners.

25. During the 2016-2017 biennium, UN-SPIDER will consolidate the network of national focal points and pursue its efforts to engage them more in its activities. A national focal point is a national institution nominated by the Government of the respective country representing the disaster management and space application communities. Its role is to work with UN-SPIDER as the first point of contact in a country in order to increase efficiency in cooperation. Most of the focal points are, for example, eligible to become authorized users of the International Charter on Space and Major Disasters under its universal access initiative. UN-SPIDER is coordinating with the Charter's partners for countries to become users of its services. This promotion will be present in every capacity-building activity of the programme.

C. Workshops and expert meetings

26. During the 2016-2017 biennium, activities will include the organization of at least two international or regional workshops, expert meetings and/or seminars bringing together national focal points, experts from UN-SPIDER regional support offices and other experts. These activities will contribute to bridging the gap between the disaster management and space communities, promote the coordination of initiatives and strengthen the UN-SPIDER regional support offices.

27. Furthermore, the programme will during the 2016-2017 biennium ensure that it:

(a) Holds at least one global expert meeting with regional support offices to review achievements of the ongoing workplan and define the workplan of the following biennium;

(b) Provides support to at least two regional and international seminars and workshops organized by partners in the form of travel support for participants from developing countries;

(c) Ensures participation, over the course of the biennium, of expert speakers in at least four relevant conferences and meetings promoting UN-SPIDER activities.

28. The target audience in the case of outreach activities includes agencies devoted to disaster management and space applications, academic and research centres, non-governmental organizations and private technology companies. The expected outcomes from outreach activities include a larger demand for capacity-building activities and the establishment of more formal links between space agencies, as well as disaster management and emergency response agencies.

VI. Conclusion

29. Building on the experience gained during almost 10 years of promoting good practices in knowledge management, including the promotion of exchange and sharing of data and information, in providing customized advisory support and capacity-building, UN-SPIDER will continue its efforts relating to increased access and improved use of space-based geospatial information, satellite telecommunication and global navigation satellite systems, as prioritized in the work of the Office for Outer Space Affairs and relevant to the post-2015 development agendas (disaster risk reduction, sustainable development and climate change). This will guide and help prioritize the collaborations that UN-SPIDER will put in place during the 2016-2017 biennium for the implementation of this work programme.